

CLAIMS

1. A method comprising:

receiving a plurality of requests for portions of a JPM file; and

transmitting a JPM file in parts in response to the plurality of requests, wherein each of the parts is a legal JPM file.
2. The method defined in Claim 1 wherein the portions are selected from a group consisting of one or more desired pages, one or more desired regions on a page, desired resolution for data being returned, a desired technique to receive returned data, and an indication of data from the JPM file that has already been received.
3. The method defined in Claim 1 wherein the request is selected from a group consisting of a spatial portion of a page, a lower resolution of a page, a range of pages, and non-label boxes.
4. The method defined in Claim 1 wherein at least one of the requests specifies a box type in the JPM file and at least one of the parts of the JPM file includes information stored in one or more of each box of the box type specified in the at least one request.
5. The method defined in Claim 4 wherein the at least one request further specifies a sub-box associated with the box type, and wherein the response includes data associated with the sub-box of the box type.

6. The method defined in Claim 1 wherein at least one of the plurality of requests specifies a box in the JPM file starting at an offset.

7. The method defined in Claim 6 wherein the response returns all of the contents of the box.

8. The method defined in Claim 1 wherein at least one of the plurality of requests specifies page size that a page in the JPM file would take on a display and specifies a portion of an image requested within the page.

9. The method defined in Claim 1 wherein at least one parameter in at least one of the plurality of requests indicates a range.

10. The method defined in Claim 1 wherein at least one of the plurality of requests includes an offset from an object box to obtain a portion of a codestream pointed to by the offset.

11. The method defined in Claim 1 wherein at least one of the plurality of requests specifies a frame size, a region offset, and a region size to identify a portion of a codestream to obtain.

12. The method defined in Claim 1 wherein at least one of the plurality of requests includes a page request parameter.

13. The method defined in Claim 1 further comprising storing the JPM file on a server using external file storage.

14. The method defined in Claim 1 further comprising storing the JPM file on a server with a plurality of codestreams in shared data entry boxes.

15. The method defined in Claim 1 further comprising:
collecting boxes in the JPM file relevant to at least one of the plurality of requests;
forming a new JPM file with the boxes that are relevant to the at least one request,
including adjusting any references of the boxes to new locations in the file; and
transmitting the new JPM file.

16. The method defined in Claim 15 wherein forming the new JPM file comprises
eliminating pointers to external files.

17. The method defined in Claim 15 where forming the new JPM file comprises adjusting
page counts and the number of objects on a page.

18. The method defined in Claim 17 wherein adjusting page counts and the number of objects
on a page comprises adjusting only those pages and objects needed to fulfill at least one of the
plurality of requests.

19. The method defined in Claim 1 wherein transmitting a JPM file in parts in response to the
plurality of requests comprises transmitting another JPM file with at least one reference to at
least one externally stored file.

20. The method defined in Claim 19 wherein the at least one externally stored file comprises at least one externally stored codestream.

21. The method defined in Claim 19 further comprising sending another JPM file with references to data in a previously sent JPM file

22. The method defined in Claim 1 further comprising grouping the JPM file with any externally referenced files and sending the grouping in response to at least one of the plurality of requests.

23. The method defined in Claim 22 wherein the grouping is a MIME file.

24. The method defined in Claim 1 wherein transmitting a JPM file in parts in response to the plurality of requests comprises transmitting the JPM file with changed references for objects that are not part of one or more requests to point to a file on a server without removing pages or layout objects.

25. The method defined in Claim 24 further comprising:
sending another JPM file that includes codestream data that extends one or more codestreams in the previously sent JPM file.

26. An article of manufacture having one or more recordable media storing executable instructions thereon which, when executed by a system, cause the system to perform a method comprising:

receiving a plurality of requests for portions of a JPM file; and
transmitting a JPM file in parts in response to the plurality of requests, wherein each of the parts is a legal JPM file.

27. The article of manufacture defined in Claim 26 wherein the portions are selected from a group consisting of one or more desired pages, one or more desired regions on a page, desired resolution for data being returned, a desired technique to receive returned data, and an indication of data from the JPM file that has already been received.

28. The article of manufacture defined in Claim 26 wherein the request is selected from a group consisting of a spatial portion of a page, a lower resolution of a page, a range of pages, and non-label boxes.

29. The article of manufacture defined in Claim 26 wherein at least one of the requests specifies a box type in the JPM file and at least one of the parts of the JPM file includes information stored in one or more of each box of the box type specified in the at least one request.

30. The article of manufacture defined in Claim 29 wherein the at least one request further specifies a sub-box associated with the box type, and wherein the response includes data associated with the sub-box of the box type.

31. The article of manufacture defined in Claim 26 wherein at least one of the plurality of requests specifies a box in the JPM file starting at an offset.

32. The article of manufacture defined in Claim 31 wherein the response returns all of the contents of the box.

33. The article of manufacture defined in Claim 26 wherein at least one of the plurality of requests specifies page size that a page in the JPM file would take on a display and specifies a portion of an image requested within the page.

34. The article of manufacture defined in Claim 26 wherein at least one parameter in at least one of the plurality of requests indicates a range.

35. The article of manufacture defined in Claim 26 wherein at least one of the plurality of requests includes an offset from an object box to obtain a portion of a codestream pointed to by the offset.

36. The article of manufacture defined in Claim 26 wherein at least one of the plurality of requests specifies a frame size, a region offset, and a region size to identify a portion of a codestream to obtain.

37. The article of manufacture defined in Claim 26 wherein at least one of the plurality of requests includes a page request parameter.

38. The article of manufacture defined in Claim 26 wherein the method further comprises storing the JPM file on a server using external file storage.

39. The article of manufacture defined in Claim 26 wherein the method further comprises storing the JPM file on a server with a plurality of codestreams in shared data entry boxes.

40. The article of manufacture defined in Claim 26 wherein the method further comprises:
collecting boxes in the JPM file relevant to at least one of the plurality of requests;
forming a new JPM file with the boxes that are relevant to the at least one request,
including adjusting any references of the boxes to new locations in the file; and
transmitting the new JPM file.

41. The article of manufacture defined in Claim 40 wherein forming the new JPM file comprises eliminating pointers to external files.

42. The article of manufacture defined in Claim 40 wherein forming the new JPM file comprises adjusting page counts and the number of objects on a page.

43. The article of manufacture defined in Claim 42 wherein adjusting page counts and the number of objects on a page comprises adjusting only those pages and objects needed to fulfill at least one of the plurality of requests.

44. The article of manufacture defined in Claim 26 wherein transmitting a JPM file in parts in response to the plurality of requests comprises transmitting another JPM file with at least one reference to at least one externally stored file.

45. The article of manufacture defined in Claim 44 wherein the at least one externally stored file comprises at least one externally stored codestream.

46. The article of manufacture defined in Claim 44 wherein the method further comprises sending another JPM file with references to data in a previously sent JPM file

47. The article of manufacture defined in Claim 26 wherein the method further comprises grouping the JPM file with any externally referenced files and sending the grouping in response to at least one of the plurality of requests.

48. The article of manufacture defined in Claim 47 wherein the grouping is a MIME file.

49. The article of manufacture defined in Claim 26 wherein transmitting a JPM file in parts in response to the plurality of requests comprises transmitting the JPM file with changed references for objects that are not part of one or more requests to point to a file on a server without removing pages or layout objects.

50. The article of manufacture defined in Claim 49 wherein the method further comprises:
sending another JPM file that includes codestream data that extends one or more codestreams in the previously sent JPM file.

51. An apparatus comprising:
an input to receive a plurality of requests for portions of a JPM file; and

a server core to transmit a JPM file in parts in response to the plurality of requests, wherein each of the parts is a legal JPM file.

52. The apparatus defined in Claim 51 wherein the portions are selected from a group consisting of one or more desired pages, one or more desired regions on a page, desired resolution for data being returned, a desired technique to receive returned data, and an indication of data from the JPM file that has already been received.

53. The apparatus defined in Claim 51 wherein the request is selected from a group consisting of a spatial portion of a page, a lower resolution of a page, a range of pages, and non-label boxes.

54. The apparatus defined in Claim 51 wherein at least one of the requests specifies a box type in the JPM file and at least one of the parts of the JPM file includes information stored in one or more of each box of the box type specified in the at least one request.

55. The apparatus defined in Claim 54 wherein the at least one request further specifies a sub-box associated with the box type, and wherein the response includes data associated with the sub-box of the box type.

56. The apparatus defined in Claim 51 wherein at least one of the plurality of requests specifies a box in the JPM file starting at an offset.

57. The apparatus defined in Claim 56 wherein the response returns all of the contents of the box.

58. The apparatus defined in Claim 51 wherein at least one of the plurality of requests specifies page size that a page in the JPM file would take on a display and specifies a portion of an image requested within the page.

59. The apparatus defined in Claim 51 wherein at least one parameter in at least one of the plurality of requests indicates a range.

60. The apparatus defined in Claim 51 wherein at least one of the plurality of requests includes an offset from an object box to obtain a portion of a codestream pointed to by the offset.

61. The apparatus defined in Claim 51 wherein at least one of the plurality of requests specifies a frame size, a region offset, and a region size to identify a portion of a codestream to obtain.

62. The method defined in Claim 51 wherein at least one of the plurality of requests includes a page request parameter.

63. The apparatus defined in Claim 51 wherein the server core stores the JPM file in an external file storage.

64. The apparatus defined in Claim 51 wherein the server core stores the JPM file with a plurality of codestreams in shared data entry boxes.

65. The apparatus defined in Claim 51 wherein the server core transmits a JPM file in parts in response to the plurality of requests by transmitting another JPM file with at least one reference to at least one externally stored file.

66. The apparatus defined in Claim 65 wherein the at least one externally stored file comprises at least one externally stored codestream.

67. The apparatus defined in Claim 65 further comprising sending another JPM file with references to data in a previously sent JPM file.

68. The apparatus defined in Claim 51 wherein the server core transmits a JPM file in parts in response to the plurality of requests by transmitting the JPM file with changed references for objects that are not part of one or more requests to point to a file on a server without removing pages or layout objects.

69. The apparatus defined in Claim 68 further comprising:
sending another JPM file that includes codestream data that extends one or more codestreams in the previously sent JPM file.

70. A method comprising:
collecting boxes in a JPM file relevant to at least one of the plurality of requests;

forming a new JPM file with the boxes that are relevant to the at least one request,
including adjusting any references of the boxes to new locations in the file; and
transmitting the new JPM file.

71. The method defined in Claim 70 wherein forming the new JPM file comprises
eliminating pointers to external files.

72. The method defined in Claim 70 where forming the new JPM file comprises adjusting
page counts and the number of objects on a page.

73. The method defined in Claim 72 wherein adjusting page counts and the number of objects
on a page comprises adjusting only those pages and objects needed to fulfill at least one of the
plurality of requests.

74. An article of manufacture having one or more recordable media storing executable
instructions thereon which, when executed by a system, cause the system to perform a method
comprising:

collecting boxes in a JPM file relevant to at least one of the plurality of requests;
forming a new JPM file with the boxes that are relevant to the at least one request,
including adjusting any references of the boxes to new locations in the file; and
transmitting the new JPM file.

75. An apparatus comprising:

means for collecting boxes in a JPM file relevant to at least one of the plurality of requests;

means for forming a new JPM file with the boxes that are relevant to the at least one request, including adjusting any references of the boxes to new locations in the file; and

means for transmitting the new JPM file.

76. A method comprising:

receiving a plurality of requests for portions of a JPM file;

transmitting a JPM file in parts in response to the plurality of requests; and

sending parts of the JPM file with an indication of the parts being sent.

77. The method defined in Claim 76 wherein sending parts of the JPM file with the indicating of the parts being sent comprises using an HTTP response indicating partial content and byte ranges of returned boxes.

78. The method defined in Claim 76 further comprising filling in gaps in a received JPM file with free boxes.

79. The method defined in Claim 78 further comprising adjusting size of the free boxes as new data that fills one or more of the gaps in the received JPM file arrives.

80. An article of manufacture having one or more recordable media storing executable instructions thereon which, when executed by a system, cause the system to perform a method comprising:

receiving a plurality of requests for portions of a JPM file;
transmitting a JPM file in parts in response to the plurality of requests; and
sending parts of the JPM file with an indication of the parts being sent.

81. A method comprising:

generating a plurality of requests; and

receiving a JPM file in parts as part of responses to the plurality of requests, wherein at least one of the parts points to portions of the JPM file received as a previously received part of the JPM file.

82. An article of manufacture having one or more recordable media storing executable instructions thereon which, when executed by a system, cause the system to perform a method comprising:

generating a plurality of requests; and

receiving a JPM file in parts as part of responses to the plurality of requests, wherein at least one of the parts points to portions of the JPM file received as a previously received part of the JPM file.